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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,687	12/28/2001	Gee Sung Chae	2658-0276P	3606

2292 7590 10/11/2006

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EXAMINER

NGUYEN, DUNG T

ART UNIT PAPER NUMBER

2871

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/028,687

Applicant(s)

CHAE, GEE SUNG

Examiner

Dung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,7-12,14,15,17 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7-12,14,15,17 and 19-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Applicant's amendment dated 07/18/2006 has been received and entered. By the amendment, claims 1-2, 4, 7-12, 14, 15, 17, 19-21 and newly added claims 22-27 are now pending in the application.

Applicant's arguments dated 07/18/2006 have been considered but are moot in view of the new ground(s) of rejections as follow.

#### *Claim Rejections - 35 USC § 103*

1. Claims 1-2, 7-8, 10-12, 17, 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodate, US Patent No. 5,748,266, in view of Kan et al., JP 09-232580 and Jang, US Patent No. 5,834,328.

Regarding the above claims, Kodate discloses a liquid crystal display (LCD) device and a method of forming the same (figures 8-9) comprising:

- a gate electrode (20) over a substrate (12);
- an active layer (46);
- an ohmic contact layer (50);
- a source/drain electrode (18/22);
- a pixel electrode (10) connected to the drain/source electrode without using contact hole (figure 8);
- a storage electrode (portion of capacitance line 28);
- an auxiliary storage electrode (portion of capacitance line 28 crossed data line 26);
- a protective layer (52/54).

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Kodate neither disclose a buffer layer nor a storage electrode formed over an entire pixel cell area. Kan et al. disclose a buffer layer (30a/30b) in figures 5-6 over a source/drain.

Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify the Kodate's thin film transistor having a buffer layer as shown by Kan et al., so as the pixel electrode would electrically connect with the buffer layer in order to control and suppress parasitic capacitance (see abstract). Jang does disclose a storage capacitor electrode (25) can be entirely formed underneath the pixel cell area (27) for increasing a capacitance. Therefore, it would have been obvious to one of ordinary skill in the art to employ a storage capacitor electrode being entirely cover the Kodate's pixel cell area in order to increase a capacitance in an LCD device.

2. Claims 4, 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodate, US Patent No. 5,748,266, in view of Kan et al., JP 09-232580 and Jang, US Patent No. 5,834,328,

Regarding the above claims, the modification to Kodate discloses the claimed invention as described above except for a based material for the buffer layer. It would have been obvious to one skilled in the art at the time of the invention was made to employ a buffer layer by a material selected from titanium and molybdenum since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for reducing contact resistance therebetween, thereby contributing to excellent image characteristics.

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*Conclusion*

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

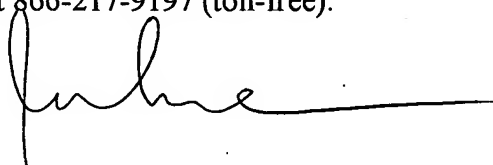
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN  
10/02/2006



***Dung Nguyen***  
***Primary Examiner***  
***Art Unit 2871***